

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of BUCZEK et al.

:

Serial No. 10/663,320

: Group Art Unit 1762

Application Filed September 16, 2003

: Examiner: JOLLEY, KIRSTEN

For: ARTICLE INCLUDING PARTICLES ORIENTED GENERALLY ALONG AN ARTICLE SURFACE AND METHOD OF MAKING

DECLARATION UNDER 37 CFR § 1.132

Andrew J. Skoog, hereby certifies the following:

1. I am a joint inventor of all the claims of the patent application identified above and I am a joint inventor of the subject matter described and claimed therein.
2. I have extensive knowledge of the compositions of superalloy and titanium materials and coatings applied over the substrates of superalloy and titanium materials.
3. The present invention, as claimed in the independent claims 17, 26 and 32 presented in the amendment filed January 27, 2006, include non-spherical metal particles within a coating medium that are physically separated from one another.
4. This declaration supplements the declaration filed June 22, 2006, which is incorporated by reference herein.
5. As discussed in the 1.132 declaration filed June 22, 2006, the physical separation of the particles within the coating medium is shown in, among other locations, Figures 5-10 of the specification of the above-reference application, which illustrate preferred embodiments of my invention.
6. The disclosure, as originally filed, provides sufficient disclosure to guide one of ordinary skill in the art to selected specific materials and conditions to make the coating medium such that a barrier layer is formed around the particles resulting in physical separation. Specifically, the disclosure provides examples of materials that form barrier layers, such as aluminum containing ferromagnetic material (see specification page 12 lines 7-8). That such a barrier layer is contemplated is further supported in the specification at page 6, lines 7-8 that specifically identifies magnetic cores. One skilled in the art would recognize that such cores can exist only because they are surrounded by barrier layers.
7. As any skilled artisan would recognize, aluminum containing alloys (i.e., those having greater than about 4 wt% aluminum) form a protective aluminum oxide layer, for example, when exposed to the atmosphere. The aluminum oxide layer acts as a barrier layer around the ferromagnetic particles and provides physical separation of the ferromagnetic particles. This barrier layer permits the ferromagnetic particles to both

locate the particles with the major dimension in a position generally along the article surface in respect to which each particle is disposed and to physically separate the ferromagnetic particles.

8. An example of a material explicitly disclosed in the specification and providing one of ordinary skill in the art with guidance on the selection of a particle material that would provide physical separation includes an alloy that necessarily has an aluminum oxide layer due to the alloy's inclusion of 12wt% aluminum (see specification page 12, lines 7-8).
9. Another example explicitly cited in the specification and providing one of ordinary skill in the art with guidance on the selection of a particle material that would provide physical separation includes the inclusion of ferromagnetic materials including material disclosed in U.S. Patent No. 5,827,445 (see specification: page 6, lines 11-15), which explicitly discloses an aluminum oxide layer formed due to oxidation of an aluminum-containing alloy (see U.S. Patent No. 5,827,445: col. 3, lines 16-19).
10. The above examples in the specification provides guidance to one of ordinary skill in the art to select the particle usable with the present invention, wherein the particular matrix usable with these particles is likewise disclosed. For example, epoxy resin is utilized with the aluminum containing particles to produce the claimed positioning of the particles. (see specification: page 12, lines 13-14).
11. In addition, the specification discloses that the matrix may be epoxy resin, or other plastic, curable or hardenable material generally used in coatings to carry pigments, which provides guidance to one or ordinary skill in the art of what materials are usable with the present invention.
12. It is my opinion that the above discussed scientific principles, in addition to the explicit disclosure, as cited above, both in the figures and in the specification, that one of ordinary skill in the art reading the specification of the above-referenced application would find the disclosure sufficient to enable one of ordinary skill in the art to make and use the invention, including the limitations "the particles being physically separated from one another".

I hereby acknowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of this application or any patent issuing thereon, and I hereby declare that all statements made in this declaration of my own knowledge are true and that all statements made on information and belief are believed to be true.



15/2/06

Andrew J. Skoog